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TUBERCLE-FREE FARMS.

The question of the production of tubercle-free farms, just now considered in our correspondence columns, deserves a more detailed discussion than it has yet received from clinicians. All practitioners are familiar with the broad principles of the question, but there are still some who have scarcely yet fully appreciated the minutiæ of its practice; and it is upon the recognition of all those minutiæ that ultimate success depends.

Every man undertaking the transformation of an infected farm into a tubercle-free one is confronted with the two-fold problem of attaining the complete separation of the diseased from the healthy animals with the minimum of trouble and expense to the owner. The latter point, secondary though it is, is nevertheless very important; for its neglect may result in the cessation of the whole undertaking. The practical details of this broadly stated problem vary a great deal with the conditions at the different farms, and there are many small points of management regarding which a comparison of experience would be valuable. There are, too, larger practical questions connected with the eradication of tuberculosis, which are not yet fully understood by the best of us.

One of the latter was alluded to by Mr. Brittlebank in his suggestive letter last week, viz., the retention of infectivity by land. The idea that pasture, unless recently infected, plays any great part in the dissemination of tuberculosis appears to be a comparatively new one. Mr. Brittlebank, himself a careful observer, adduced one observation, or rather series of observations, which certainly support it. The now well-known fact that cattle in certain countries, such as New Zealand, frequently contract tuberculosis while living wholly in the open, tends in the same direction. And in this connection it must be remembered that the fæces of tuberculous cattle are now known to be far more dangerous than was supposed a few years ago.

Mr. Brittlebank appeals to veterinary surgeons experienced in the eradication of tuberculosis from dairy herds to record their results. Many private practitioners in this country have considerable experience of the subject, but hitherto very little of the results of their work has been recorded. Most of the results which we do possess are from veterinarians in the public service; and that is still only a small part of the veterinary activity of the country,

SOME LESIONS CAUSED BY THE BACILLUS OF NECROSIS.

By Prof. A. E. METTAM,
Royal Veterinary College of Ireland, Dublin.

I am tempted to send you the following notes as the result of reading your annotation upon the bacillus of necrosis, an organism which causes a large variety of lesions in the domestic animals.

The first case relates to a mare affected with pleurisy which I saw during the spring vacation with Mr. Bloye, F.R.C.V.S., of Plymouth. The case was not a well marked one clinically, and death was not anticipated so soon as it occurred. The post-mortem examination, which I had the opportunity of making, gave a result wholly unexpected when we remembered the unsatisfactory clinical examination. There was nothing during life to lead us to suspect the condition found at the post-mortem examination.

When we arrived at the knacker's yard the abdomen had been opened, and at the same time the knife had wounded the diaphragm and a quantity of fluid had escaped from the thorax. The amount it is not possible to estimate, but probably a few gallons, as the abdomen contained a large quantity of fluid that had drained into it from the thorax. The abdominal contents did not show anything of interest, save that the liver was intensely fatty.

The thorax contained an enormous quantity of fluid, estimated at fourteen gallons, blood stained and slightly turbid. The lungs showed a certain amount of pressure collapse, and were somewhat shrunken as a consequence. Upon the diaphragm, costal pleura, and mediastinum a thick honeycomb-like layer of yellow fibrin had been deposited. I obtained some of the fluid and had no difficulty in demonstrating the bacillus of necrosis in typical appearance and in enormous numbers. As I was away from the laboratory I had no opportunity of making cultures. I, on my return home, cut sections of the pleura and exudate, and found without difficulty the organisms in abundance entangled in the exudate. (Photo 1). They were in pure culture. It is of more than passing interest to note that the mare a short time previously had an injured heel, from which a small slough had come away, and I have often wondered if there was any connection between the sloughed heel and the pleurisy—if the wound had allowed of the entrance of the organism into the tissues? It is not at all unlikely.

II.

During the past winter I have received for post-mortem examination four brushtailed kangaroos from the Royal Zoological Gardens. They had not been long in the gardens, and two died within a couple of days of each other. In the peritoneum of each animal, free in the sac, were nematode worms, which have been identified by Dr. Leiper, of the London School of Tropical Medicine, as the *Filaria spelæa*. The female, as usual, is the larger, and about 10in. in length. The male is six inches; they are white in colour, the female being as thick as a knitting needle. In the fluid in the peritoneum were actively motile larvæ, and numerous similar larvæ were found in the blood of the right side of the heart.

These facts by the way. In the stomach of each animal on the right side was an enormous lesion involving the whole thickness of the stomach and extending to the serous covering. As a consequence there was an adhesion between the stomach and the abdominal wall. The lesion was from ½in. to 1in. thick, dark brown-red in colour, necrotic. Scrapings and sections show numerous bacilli of necrosis in pure culture. Lesions were also present in the liver, and these resembled the lesions found in the same organ of the ox—disseminated bacterial necrosis (Photo 2). The lesions are not only identical to the naked eye, but also microscopically, the bacilli being in enormous quantities and the effects of their presence being precisely similar to those observed in the bovine organ. Kangaroos and wallabies frequently die from necrosis of the jaws, and I have invariably found the organism present in the lesions.

[Dr. Leiper has kindly furnished the following note on this parasite which may be of interest;—"Filaria Spelæa, Leidy, 1875. Body filiform, translucent whitish, tapering at the extremities, cephalic end straight, obtusely rounded, furnished with four equidistant papillæ around mouth. Caudal end narrowest, rather abruptly attenuated, and spirally rolled over once or twice and terminating obtusely. A distinct anal aperture observable in the female. A row of eight papillæ on each side ventrally of the candal end of the male, three in advance, and the others back of the genital aperture. Penis a long tubular style, thick at the upper part, narrow and curved below. Accessory piece a short, thick, curved tube, widening at the upper end in a spade-like furcate portion. Œsophagus long, cylindrical, as wide as succeeding intestine.

Measurements. — ♀ length 10in., ¼ line thick, length of tail from anal aperture 7-8 mm. ♂ length 4in. to 4½in., thickness 1-66in., tail from genital aperture forms 2-3rd of a circle, ½ mm. in diameter. Penis 7-8 mm. long, accessory piece 1-5 mm. long.

Half-a-dozen individuals were obtained from the peritoneal cavity of an Australian wallaby which died in the Zoological Gardens, Philadelphia."]

III.

During the present week a badger—*Teles taxus*—died, and on post-mortem examination I found a pleurisy, with an enormous effusion into the thoracic cavity of a blood stained, thinnish, purulent fluid. When the abdomen was opened the diaphragm actually bulged into the cavity, from the great quantity of fluid present in the thorax. A microscopic examinatton of the fluid showed the organism of necrosis is great abundance, though not in pure culture. The fluid contained practically an equal number of mono-nuclear and poly-nuclear leucocytes, with some free endothelial cells. There was a blood-stained fibrinous deposit on the pleura, the lungs were shrunken, though without naked eye lesion. The animal had a wound on its nose.

IV.

Necrosis of the gums, palate, and tongue of calves is not uncommon (calf diphtheria) and although I have seen numerous cases including also necrosis of the umbilicus all due to the same cause—the bacillus of necrosis—still I do not remember having encountered the lesions in an animal so young as in the following case. I received the tongue, portion of the cheek and the stomachs of a calf a fortnight old from Mr. Trevor Williams, M.R.C.V.S., Glen Aber, Llangefini, Anglesey. The animal was said to have been ill four days. There was a discharge from the nose: an offensive diarrhœa not like ordinary scour. The owner had lost ten animals during the month previous.

The tongue shows on under side of the free portion an ulcer size of a penny piece, and a smaller one on the right side of the free portion of tongue opposite to the larger one. A third ulcer is present on the under side of the fixed part of the tongue, rather inclined to the right lateral border of the tongue, the size of a sixpence. On the left lateral border in the same position as the last mentioned ulcer three others are seen; one size of a pin's head, a second that of the small finger nail, a third is nearly the size of a sixpence. Six ulcers, therefore, of varying dimensions are present upon the tongue. Two of these are well shown in the photograph. On the cheek an irregularly oval ulcer 2in. by 1in. is present, and shown also in the photo.

Ulcers are also present in the rumen, involving the mucous membrane of one side of a pillar of the rumen. There are three confluent ulcers nearly 3in. long by about an inch broad, covered with the usual greyish brown granular deposit. On the other side of the same pillar is an ulcer—excoriated—the size of a threepenny piece, and further away an area of necrosed mucous membrane 1½ in. in diameter. Below this necrosed area is an infiltration such as is found beneath a swine fever ulcer. In the abomasum the mucous membrane was found to be intensely congested, the mucous membrane thickened, and shiny on the surface.

In all the lesions the bacillus of necrosis was found in scrapings and in sections made. The case is interesting because of the youth of the subject and the distribution of the lesions.

TUBERCULIN-TESTED HERDS.—The Northallerton Agricultural Society, at its show on Sept. 16th, offered a special prize to farmers whose cows have passed the tuberculin test. The Milk Society initiated a movement for the testing of dairy herds, and tests have now been carried out in a large number of cases.

FRACTURE OF THE DENTATA, UNUSUAL CAUSE.

The subject was a grey Irish mare, aged four years. She was sent to a horse breaker some distance away from here, and whilst there she met with her death in a rather unusual manner. She was rather hot tempered and had a decided will of her own, resenting any undue restraint. No one actually saw the accident, but she was tied up as usual in the stable when suddenly one of the grooms heard one of the horses struggling, and, running in, found the grey mare lying on the ground. The halter shank was tight, and instead of passing direct from the head collar to the place of fastening, it passed from the former up towards the ears over the poll and from thence to the place where it was fixed. The mare had evidently hung back on the halter shank and had cast herself. (I myself had narrowly escaped being hurt by her hanging back and the halter shank breaking one day whilst she was at home). After allowing her to lie for a minute the groom attempted to make her get up, but this she was unable to do, and in about twenty minutes she died.

On post-mortem examination the dentata was found fractured into seven pieces, for an opportunity of examining and photographing which I am indebted to Mr. Castledine, who made the post-mortem.

The neural canal was full of blood, probably from laceration of the vertebral artery. The case bears out the fact that fractures of the cervical vertebræ in the upper part of the neck are not necessarily instantaneously fatal, on account of the comparative largeness of the neural canal in that region. And this mare conceivably would have survived longer than she did if it had not been for the pressure exerted by the blood on the spinal cord.

The peculiar disposition of the halter shank was no doubt responsible for the untoward effect of hanging back, as it would have a twisting motion in addition to the pull.

NORMAL PARTURITION AFTER EVERSION OF THE UTERUS.

Case I. The subject was a big shorthorn cow, the winner of several milking prizes, for which the owner had given £40. The uterus was, as far as one could judge, wholly everted, and was only returned with very great difficulty. The animal afterwards passed into other hands, and the next calving, I am informed, was quite normal and uneventful.

Case II. The subject was a Sussex cross cow, and the uterus was everted almost to the extent of the preceding case, but was not so much swollen. After its return the animal did not get up for about ten days. The next calving did not present any noteworthy symptoms.

Case III. The subject of this was a red cross-bred cow, somewhat aged, and in poor condition. About one-half of the uterus was everted in this case. The succeeding calving was perfectly normal.

When a uterus is everted it is reasonable to suppose that there must be laceration of some portion of the uterine ligament, particularly of the anterior portion of the broad ligament, and one would think that the straining of any subsequent parturition would almost certainly lead to a repetition of the trouble.

The general procedure after cow has everted the uterus is not to run the risk of another calving, but to fatten the animal. The above three cases, however, indicate that it does not follow that the succeeding calving should of necessity be followed by a repetition of the eversion.

HENRY TAYLOR, F.R.C.V.S.

Hayward's Heath.

RUPTURE OF ANTERIOR MESENTERIC ARTERY DUE TO THE STRONGYLUS ARMATUS.

By C. W. TOWNSEND, F.R.C.V.S.

The subject of my note was a bay thoroughbred colt, about nine months old. I was called in to attend on December 27th last year. The history of the case was that the colt had been somewhat thin and unthrifty in appearance for some weeks past, but except for this its condition had given no cause for anxiety.

Upon examination I soon discovered that the case was practically hopeless. The symptoms exhibited were those shown by animals in a state of collapse; pulse small, quick, very weak, respiration accelerated, extremities cold, temperature normal, visible mucous membranes somewhat paler

than normal, position of animal principally recumbent, but when made to stand and walk round the box would stagger and nearly fall over.

I informed the owner that the case was a hopeless one to treat, and taking into consideration the history, symptoms, and condition of this animal, also the fact that the owner had some more foals, with symptoms which led me to suspect they were suffering from intestinal parasites, I came to the conclusion that the symptoms the animal was now showing were also attributable in some way to the same cause.

The colt died in the evening of the same day—less than twelve hours from the time it was first noticed. A post-mortem examination was made the following morning, when the cause of death was found to be internal hæmorrhage. Towards the roof of the abdominal cavity and imprisoned among the intestinal contents, a big clot of blood was present, I accordingly attempted to discover the precise spot where the rupture had occurred. First removing the clot with the hand, I afterwards removed the intestines with their attached mesentery as far as possible from the abdominal cavity, without using the knife. I was now able to make a much better examination of the roof of the abdominal cavity, and also the anatomy of the particular parts from which the clot had previously been removed. By carefully examining the various parts, I now discovered that undoubtedly the cause of death was due to the rupture of a verminous aneurism, the latter being, as is usually the case, near the origin of the anterior mesenteric artery. The aneurism itself presented the appearances which are usually shown in such cases, being hard and indurated, with thickened walls, and about the size of a man's fist. In the aneurism several specimens of the strongylus armatus were present.

Remarks.—No doubt the ultimate cause of death in this case was internal hæmorrhage from the ruptured aneurism, but what struck me as being peculiar was the period that elapsed between the first symptoms noticed and death. A possible explanation of this may be that the first symptoms shown were those of aneurismal colic, due to the blocking of the anterior mesenteric artery with the strongylus armatus, these worms producing ischemia of portions of the intestines supplied by this vessel, with indigestion and colic occurring as a sequel. The rupture itself, in my opinion, was a secondary complication, and due to some previous weakening in the wall of the aneurism by the parasites. At the same time it is conceivable that the abdominal pain and rolling movements of the animal at the onset may have had something to do with causing the rupture.

In conclusion, I may say that the principal reason I have for recording this case is because, in my experience, I have found that although verminous aneurisms are common in horses, and no doubt are responsible for many cases of colic in young horses, yet rupture of this lesion is uncommon, and this is probably due to the fact that the presence of the aneurism gives to the wall of the vessel increased strength.

NEW METHOD OF OPERATING FOR ROARING.

The following method of stripping the ventricle of the larynx for the relief of roaring appears to me to possess advantages over the existing one of operating through the crico-thyroid membranes.

Proceed as usual until the thyroid cartilage is reached, have the divided muscles retracted with retractors; push portion of the crico-thyroid muscle aside with the handle of the bistoury. In the angle between the anterior and inferior borders (taking the neck to be vertical) of the thyroid wing, remove by means of a trephine about ½in. in diameter, a disc of cartilage, thus exposing the thyro-arytenoid muscle immediately to the inside of the vocal cord, with the mucous membrane of the ventricle protruding between the two bellies of the muscle. Grasp the mucous membrane with a forceps, and by means of the handle of the bistoury isolate it as far as possible from the surrounding tissues. Incise it anteriorly immediately behind the cartilage in the aryteno-epiglottic fold of membrane, thus opening into the larynx, and continue the incision all round the periphery of the exposed piece of membrane, and thereby remove the greater part of the ventricular lining, including that towards the inner aspect of the vocal cord. A small portion of the membrane still lines the anterior portion of the ventricle. This can be easily grasped with the forceps, drawn through the trephine opening, cut at its fixed border, and removed.

Apparent Advantages of this Method.

1. The ventricle is more directly reached.
2. There is no speculum or dilator required to be inserted into the larynx and, possibly, injure its lining.
3. There is no danger of wounding the interior of the larynx with the knife or other instrument in the hands of an inexperienced or nervous operator, or in the case of a sudden movement of the animal should he not be profoundly anæsthetised.
4. The wounds for the laryngeal opening and stripping of the ventricle are practically one and the same.
5. The cicatrisation of the internal wound must necessarily draw the vocal cord outwards, and thus have the desired effect.
6. The thyro-arytenoid muscle always coming into view, it can at once be seen whether it has undergone atrophy and whether the case is one of true roaring.
7. The operation is performed practically outside the larynx, and there is less danger of inspiration of foreign material through the laryngeal opening afterwards being protected by the sterno-thyroid-hyoid muscle, which partially covers it.

Apparent Disadvantages.

1. The possibility of excessive granulations forming round the edges of the opening in the cartilage; but there seems to be no reason why this should occur here any more than in a tem-

porary tracheotomy opening, or that of a sinus of the head.

2. The escape of blood from the larynx may not be so free as in the case of the crico-thyroid opening.

I have only tried this method in one living horse, having done other cases through the crico-thyroid membrane without cutting the cricoid cartilage. Although the ventricle can be readily stripped through the crico-thyroid opening, still I think it would be better if it could be done without stretching the laryngeal mucous membrane with a dilator, or interfering with the vocal cord by holding it back with a retractor.

The case I have done by the new method is too recent to enable me to give the result of it. I publish this in the hope that other members of the profession may express their views regarding it—or try it.

J. J. O'Connor, M.R.C.V.S.

R.V. Coll., Dublin.

The Brighton Congress—An Impression.

The impression left by attendance at the meetings was that the importance of the work of the veterinary surgeon was recognised. He (the veterinary surgeon) was much more frequently referred to, both in the papers read and in the discussions which followed than he was some years ago.

The President of the Conference of Medical Officers of Health, in the course of his remarks on a paper dealing with sickness in cows and milk supply, thanked the veterinary surgeon who had previously spoken on this subject, and added that it was desirable and necessary that Veterinary Inspectors should be more extensively appointed in all Counties. Considering its source, this expression of opinion is very satisfactory.

Now coming to the Conference of Veterinary Jnspectors, the meeting was an unqualified success. From personal observation it appeared the largest attended meeting of the different sections. This fact alone is evidence of the keen interest felt in the subjects under discussion, not unmixed, perhaps, with curiosity to hear the veterinary side of the question. As was to be expected, the discussions on the two papers read were carried on mainly by members of the medical profession and members of Corporations. So far as could be judged, very few members of our profession were present at the different meetings of the Congress. No doubt good reasons could be given for this paucity of attendance; we hope, however, they are taking a studious interest in this branch of their profession, so that they may fill with credit those positions of trust (perhaps not very lucrative) which there is a prospect will, sooner or later, be opened for them.

Cyclop.

ABSTRACTS FROM FOREIGN JOURNALS.

Measly Beef in Holland.

Flohil (*Tijdschrift voor Veeartsenijkunde*) discusses the question of the *Cysticercus bovis* (the cysticercal form of the *Tænia saginata* of man), with regard to its prevalence in Dutch cattle, and the measures requisite against it. Until recent years, little or no accurate information was available concerning the existence and propagation of this cysticercus in the cattle of Holland. It was supposed, however, that the cysticercus must be rather common, from the prevalence of the *Tænia Saginata* in man.

In Germany, exact information on this point was obtained earlier. Hertwig, in 1889, remarked that the masticatory muscles and the heart of bovines frequently contained this cysticercus. Six years later, in 1895, it had been recognised, in a score of German abattoirs, that the number of slaughtered cattle infected with the parasite ranged from 0·15% to 4%. The mean percentage was 0·75%. Systematic methods for the discovery of the parasite, notably invariable incisions of the cardiac muscle and the masticatory muscles, were then laid down; and the result was that the proportion of cattle found infected rose to 2½% of those slaughtered. (It will be remembered that the small size of the cysticercus, and the fact that many affected subjects contain only a few parasites, render the condition easy to overlook unless special and careful search is made).

The German results have led the directors of the Dutch abattoirs to investigate in the same direction. Flohil publishes the statistics obtained at his own abattoir at Groningue for the period of from 1904 to 1908, during which time over 37,000 head of cattle were slaughtered and examined. Of cattle over two years old, 0·41% were found affected, and 0·07% contained *living* cysticerci; of cattle under two years, 0·41% were affected and 0·13% contained living cysticerci; and of calves at grass, 0·12% were affected, and 0·04% contained living cysticerci. These results show that the parasite is fairly common in Holland, that it is almost as common in young as in old animals, that it is found living twice as often in young as in old cattle, and that calves at grass are less infected than other cattle.

The parasites were especially found in the internal and external masticatory muscles and in the heart; they were also found, though rarely, in the tongue, the diaphragm, and in the other muscles. Although the cysticercus is very frequently found in the heart, it nevertheless seems that this muscle is not a suitable lodgment for the parasites, for the majority of those found there were degenerated.

The author considers that meat inspection should always be conducted with a view to discovering the presence of the *cysticercus bovis*, though he admits that the local examination for the parasite takes up some time. He offers a few remarks upon the best method of conducting the local examination. The incisions the masticatory muscles

should always commence near the edge of the maxilla, as the parasites are often found there. The median part of the muscle should be cut through, and the incisions should extend as near as possible to the superior maxilla. As regards the cardiac examination, the heart should be cut completely through; and special attention should be given to the endocardium and the pericardium, for the parasites are most frequently found upon the internal aspect of these membranes.

The examination of the heart should be especially complete in calves, as in them the parasite is more often found in the heart than in the masticatory muscles. And, when degenerated cysticerci have been found in the heart, the examination of the masticatory muscles should be particularly minute.

The author then deals with the question of what should be done with meat containing living cysticerci. Various regulations, of which the author gives some account, have been enforced in Germany. These have been modified from time to time, and the general tendency of such modification has been to relax the stringency of the regulation in the case of slightly infected flesh. In this connection it must be remembered that severe regulations would occasion serious loss to agriculturists, which should only be inflicted when the reasons are weighty from the point of view of human hygiene. The *Tænia saginata* is common on the continent, but is not a very serious parasite of man. It deprives the man harbouring it of a portion of his nutriment, and may thus cause considerable loss of strength. But its presence occasions little danger to life, and it is really rather a disagreeable than a dangerous parasite.

The author himself favours a procedure which would, he thinks, ultimately cause the disappearance of the affection in cattle.

This is to allow no meat in which living cysticerci (whatever their number) have been discovered to pass for food until it has been subjected to treatment which destroys the parasite and renders the meat inoffensive. Salting for twenty-one days, keeping in an ice house for the same period, or boiling, will all accomplish this object.—(*Annales de Méd. Vét.*)

The Flesh and Milk of Animals Suffering from Tetanus.

Messner (*Zeitschrift für Fleisch-und Milch hygiene*) records the following observations. A cow, affected with purulent metritis following a retention of the after-birth, showed, after four days, a manifest trismus. Fever was absent, but the tonic contractions progressed to the muscles of the neck, and the cow was slaughtered. When the meat was inspected, no lesions were found beyond those of metritis, and no indications of septicæmia. The quarters were stamped and sent to the "Freibank." The author, in order to exclude all suspicion of septicæmia, made cultural experiments upon agar, and attempted to infect mice by ingestion. All his results were negative; and the case was therefore one of pure tetanus, without any complication of septicæmic nature.

The author attempted to ascertain the tetanising properties of the meat and milk of this cow. He therefore made an emulsion of fragments of the masticatory muscles in sterile water (one part of muscle to two of water), and, while the udder was still intact, he removed a little milk under aseptic precautions. He then carried out the following experiments.

(1) *Milk.* Two white mice received the milk raw; they contracted typical tetanus after five days and died on the sixth day. On the other hand, two mice which had taken the milk after boiling remained healthy.

Fragments of muscle were taken from the thigh of one of the dead mice and inserted under the skin of two fresh mice; these contracted an intense tetanus after eight days, and died the next day.

(2) *Emulsion of Masticatory Muscles.* Six white mice were divided into three groups of two animals each, and injected subcutaneously at the base of the tail with the emulsion. The dose given varied with the group, being 0·1 c.c., 0·3 c.c., and 0·5 c.c. respectively. The first named of these doses exercised no effect, while the two latter ones caused a typical tetanus after six days.

Fresh material was obtained from one of the two mice which had received 0·5 c.c. of emulsion. Blood from the heart was inoculated into other animals, with negative results. Fragments of muscle, however, caused tetanisation of the inoculated subjects after from seven to eight days. Still further experiments were made with an emulsion in sterile water of muscle from the hind limb of one of these last mentioned subjects, and the inoculation of this caused tetanus in several mice at the end of three days; and, finally, yet another emulsion was prepared from one of these mice, and gave similar results.

The author therefore arrives at the following conclusions. The milk of tetanised animals is dangerous when raw, but inoffensive when it has been previously boiled. The flesh of the same animals may be eaten with impunity; this being due to the action of the gastric juice. The tetanised muscles nevertheless contain toxins, as is proved by the effect of inoculations of fragments or muscular emulsions. It is necessary, therefore, to exercise caution in the manipulation of such flesh; and the author instances the preparation of sausages, in which the minced meat is sometimes mixed with the hand, as entailing danger of intoxication. In all cases the muscle seems to contains less toxin than the milk, for milk is capable of causing intoxication by ingestion, and muscle is not, but requires to be inoculated to produce ill effects. The author also remarks that the subcutaneous insertion of small fragments of muscle provoked tetanus less speedily than the injection of an aqueous extract, and points out that this indicates the solubility of the toxins in water. Lastly, he points out that inoculation of blood from an affected animal has not been followed by success in any case.—*Annales de Méd. Vét.*

The Frequence of the Cysticercus Bovis.

Raymond, a sanitary veterinary surgeon of the Seine, has been turning his attention to this question. He has been led to do so by the curious fact that, while the human *Tænia saginata* is becoming increasingly frequent in the neighbourhood of Paris, yet the *Cysticercus bovis* is rarely found in the Parisian abattoirs. It is found elsewhere in France—at the Troyes abattoir, for instance, Morot has often found it in Jurassic cattle—while in Italy, at the abattoirs of Genoa, it has been frequently found in Piedmontese cattle. The small size of the cysticercus, and its scatterred distribution, renders it possible that it may often escape observation, and Raymond has therefore undertaken a systematic search for it. During the years 1908 and 1909, at the abattoirs of La Villette, he has searched for the parasite in the muscles which are known to be its favourite seats of localisation in 550 slaughtered cattle, These animals were of various breeds, but none were either Piedmontese or Jurassic. Ninety of them were calves of from two to five months old; the remainder were adult cattle.

In all these subjects Raymond never found either the living *Cysticercus bovis*, or any forms which could be identified with certainty as the same parasite dead. In 32 animals, however, he has found degenerated bodies which he calls "pseudo-tubercles" and which strongly suggest degenerated cysticerci, lodged in the muscular tissue. These "pseudo-tubercles" ranged from one-fifth to one-third of an inch long by from one-twelfth to one-eighth of an inch thick, thus being the same size as the *Cyrticercus bovis*, and were found in various muscles which are known to be favourite seats of that parasite, viz., the masseters and pterygoids, the point of the heart, the course of the coronary groove, and the diaphragm, They consisted of whitish-grey bodies, resistant to the touch, and were constituted by organic *débris* completely invaded by calcareous degeneration. Some undegenerated fatty cells were found at the two poles; but elsewhere the calcareous degeneration was so complete as to render it impossible to determine the nature of the bodies. They were lodged in the interfascicular and sometimes in the intra-fascicular connective tissue, and were surrounded by a thin zone of reaction constituted by fibro-connective tissue, in the somewhat loose meshes of which some small round cells, indicative of organic reaction, could be perceived here and there. The surrounding muscular tissue showed neither proliferation nor degeneration, and the lymphatic glands connected with the affected muscles were free from lesions. Nevertheless, Raymond made numerous attempts to demonstrate acid-fast bacilli microscopically in the "pseudo-tubercles," and also performed inoculation experiments upon two guinea-pigs. All these attempts yielded negative results.

The proportion of calves affected with these "pseudo-tubercles' was much higher than that of adult animals. Sixteen of the thirty-two affected animals were calves, the proportion of affected calves thus being 17·77 per cent. of the calves examined. In the adult cattle the affected percentage varied with the breed, the most frequently affected being Parthenais cattle, in the proportion of 6 per cent. The seats of the lesions in the calves were about the point of the heart, the coronary groove, and the diaphragm.

Raymond admits the difficulty of deciding whether or not these "pseudo-tubercles" should be regarded as dead and degenerated cysticerci. Their size, their localisation, and the known tendency of the *Cysticercus bovis* to rapid calcareous degeneration, undoubtedly render the suspicion a very probable one.—*L'Hygiene de la Viande et du Lait.*

W. R. C.

NORTH OF SCOTLAND.
VETERINARY MEDICAL SOCIETY.

The half-yearly meeting was held in the Agricultural Department, Marischal College, Aberdeen, on Saturday, August 27th, under the presidency of Mr. William Skinner, Oldmeldrum. The following gentlemen were present: Messrs. Anderson, Keith; Baxter, Elgin; Cumming, Peterculter; Murray, Cullen; Marshall, Aberdeen; McGregor, Old Deer; Watson, Aberchirder; Howie, Alford, hon. sec.; and Brown, Banchory, visitor.

Apologies for absence were intimated from Messrs. McPherson, McLauchlan Young, Thomson, Crabb, and Lewis.

The minutes of last meeting were unanimously taken as read.

The Affiliation of Societies.—The Secretary read a letter from Prof. Gofton, Edinburgh, asking for a contribution towards the expenses incurred in promoting the movement for the proposed Amalgamation of Veterinary Societies.

Mr. Baxter proposed, Mr. McGregor seconded, and it was unanimously agreed that the sum of one guinea be sent as a contribution.

Meat Inspection.—The following letter from the Town Clerk of Glasgow was submitted to the meeting:

"City Chambers, Glasgow, April 20th, 1910.

To Geo. Howie, Secretary.

Sir,—For a considerable time my Corporation have been advocating the introduction throughout Scotland of a uniform system of inspection and standard of adjudication of meat. They have been in communication with various local authorities throughout Scotland who are practically unanimous in favour of this. They have also made representations to the Local Government Board to introduce a uniform system and standard, and to appoint to their staff a veterinary surgeon with practical experience to supervise the work of inspection so as to insure uniformity. I recently requested the Secretary for Scotland to receive in Edinburgh a deputation composed of representatives of the various authorities and public bodies on the subject, and he has intimated that he will receive the deputation, but that he is meantime not in a position to appoint a date for the interview. I shall be glad to hear if your Society will be represented. As soon as I hear from him I shall advise you of the date of the interview.—Yours truly,

For the Town Clerk,

J. L. McKenzie."

The Secretary said that as the matter seemed to him to be urgent, he at once wrote to the President asking if he would be willing to attend at this interview. He replied at once that he would be agreeable. He further stated that the meeting had not yet taken place, owing probably to the death of the King, and asked the meeting to approve of the arrangements he had made.

It was formally agreed that Mr. Skinner should attend the meeting in Edinburgh, and that the Secretary should send a copy of the resolution in name of this Society to the Local Government Board for Scotland, so as to strengthen the hands of the Association of Veterinary Officers of Health.

A letter from the Secretary of the Southern Counties V.M.S. inviting delegates to the Sanitary Congress at Brighton was read. It was agreed that no delegates be sent.

The following new members were proposed :

Mr. BROWN, Banchory, by Mr. Anderson, seconded by Mr. Cumming.

Mr. SCOTSON, Cruden, by Mr. Marshall, seconded by Mr. Anderson.

CONTAGIOUS ABORTION IN CATTLE, TREATED WITH "ABORTIN" AND "ANTI-ABORTION."

By WM. MCPHERSON.

The PRESIDENT announced that Mr. McPherson was unable to be present. He had, however, sent on his paper which he now asked the Secretary to read.

So many subjects have already been discussed in our veterinary societies, many of them unavoidably a repetition of what we learned at College, with bits of our own practical experience thrown in, that a sameness in our proceedings has given rise to apathy on the part of members. Something new and original is naturally what is wanted, and in this respect I would have been entirely wanting had I been solely depending on myself for a paper. Hence my reason for bringing forward this subject of contagious abortion in cattle, which had a new interest created in it since Mr. Stockman read a paper on the subject before the Royal Counties Veterinary Medical Assosiation in July of last year. All those interested in the subject who read the paper have ceased to take an interest in any way of dealing with contagious abortion other than that advocated by Mr. Stockman, and they are, as it were, patiently waiting for the result of a long series of experiments, which must be tried and proved, in the field as well as in the laboratory, before the efficacy as a diagnostic or preventive agent can be relied upon.

This disease has no parallel, unless perhaps tuberculosis, amongst the lower animals in the way of causing loss and disappointment to stock owners. Dairymen, apart from losing the calves, have all the affected cows put out of season : the whole business as a result being disorganised. Bad as that state of matters is, it is little compared with the loss to the owners of pedigreed stock. How many men have we known whose business was in a thriving condition and whose prospects were bright become suddenly ruined by this disease ?

All sorts of cures and preventives have been tried by professional as well as non-professional men and all without the desired result. People became sceptical about trying anything. Dealing with it on the lines suggested in Mr. Stockman's paper offers more chance of success than any other method.

I was fortunate in getting a farmer in the Huntly district, Mr. Simpson, of Broadland, who has the disease amongst his cows, to place his dairy herd at my disposal—some 40 or 50 in number—to carry out experiments on part of them, and it is the results obtained that I now propose to lay before you.

The method of diagnosis adopted is known as the "Abortion test." Abortin is a substance of a similar nature to Tuberculin and Mallein, and used in nearly the same way. It is prepared from cultures of the abortion bacilli, and the material is injected subcutaneously at the shoulder with the usual antiseptic precautions. The dose for each cow is 10 c.c. The temperature should be taken and recorded before injection, and every two hours, beginning at the fourth after injection and ending at the fourteenth.

It is suggested that in the earlier stages of the infection a reaction may not not be obtained, and that the non-reactors should be retested a month after the first test. This, however, I did not do. There were in all 35 pregnant cows submitted to this test, and the following table will show the result.

Nos. 2, 4, 5, 7, 10, 13, 15, 16, 18, 19, 20, 24, 25, 27, 28, 29, 30, 31, 32, 34 (20 in all) gave no reaction, and calved normally.

Nos. 11 (reacted) and 12, did not prove in calf.

Nos. 9, 23 did not react, but aborted.

Nos. 1, 3, 6, 8, 33 reacted, and aborted.

Nos. 14, 17, 21, 22, 26, 35 reacted, but carried the calf full time.

What we have to notice from a perusal of the foregoing table is that a reacter, a cow affected with contagious abortion, may carry her calf to the full time. That is more likely if the cow has aborted before.

In the case of the six reactors which carried their calves to the full time it was not possible to know whether or not they had aborted previously, as they were bought in cows, the owner did not breed them.

It has also to be observed that the normal cows, those which did not react, remained that way during their pregnancy and calved at their ordinary time with the exception of No. 6, 9, and 23, all of which aborted. These may have been infected subsequent to the testing, and two of them, Nos. 9 and 23 were standing beside cows that were infected.

In the cases that aborted, part of the placenta of each was sent to the Laboratory of the Board of Agricultnre for examination, and in some cases the abortion bacilli were not found. This did not disprove that the cows were aborting from contagious abortion, as it was pointed out to me at a rather late stage that a large enough piece of the placenta was not being sent, which may have accounted for the failure to find the bacilli.

Now the question comes to be asked—In the light of the results of the application of the "abortin test" in this herd, Are we to assume that the test can be relied on to correctly diagnose whether or not an animal is affected with contagious abortion ? The answer is in the affirmative. These are the usual exceptions, but we believe that these will be got over when veterinary surgeons become better acquainted with the working of the test.

The other part of experiments : those relating to the Prevention of contagious abortion by the application of "Anti-abortion" would have been much more interesting to the present company, as well as to stockowners, but unfortunately we are only half way through with them.

It must be noted that "Anti-abortion" consists of virulent cultures of the abortion bacillus, and is only to be used in the case of non-pregnant cows, about two months before being put to the bull. The animal to be immunised should be injected subcutaneously with 150c.c. The dose you will observe is very large, about a small tumblerful. The material has to be used with the greatest care, as any pregnant animal would be almost certain to abort by coming in contact with it.

In the case in which we used it, six clean cows were selected, three of them were immunised, the other three were left to take their chance. What we are waiting for is to see if the immunised three will carry their calves the full time while moving in a herd infected with contagious abortion. Five of the six have settled to the bull : one turned out a "Buller."

Eight cows that had previovsly aborted were dealt with in the same way, four of them were immunised, the other four were left to take their chance. In the case of the aborted lot we will be longer before we get

the result, as they were not settling well to the bull, but I understand that now they have all settled. The results of the applied anti-abortion will be reported at the earliest possible time to this Society.

The trials with "Anti-abortion" are unfortunately not numerous enough to be satisfactory, the cows were immunised in November when few of them were non-pregnant, the months of April or May would be better when a larger number could be got for the purpose. Others who may continue these trials ought to take note of this.

I have not attempted to deal with contagious abortion in any other way except that mentioned in the title of the paper. Ample room is left for discussion on a subject which most of you know more about than I do.

Although it looks hopeful, it is not certain that contagious abortion will be successfully dealt with by this new treatment, and until something more definite is known, those who have contagious abortion in their herds would be greatly benefitted by observing the following rules :

(1) Aborting cows should be removed from others as soon as signs appear. Isolate completely, or if this is impossible put all the aborting and aborted cows to the lower end of the building so that their drainage will not pass others.

(2) Fœtus and afterbirth, destroy and disinfect with caustic lime, and better still, burn them, together with any straw, etc., that has been in contact with them.

(3) Attendants on aborting or aborted cows should only handle pregnant cows after disinfecting their hands and putting on overalls.

(4) Cows after aborting should be thoroughly washed out twice daily with a 5 per cent. solution of carbolic acid, and not allowed back amongst the others until all discharges from the vagiua have ceased.

(5) If possible, now cows should go to a bull that has served aborted cows. If no other bull is available the penis should be disinfected before and after service.

(6) All the premises should be cleaned in a way similar to that of the Anthrax Order at the least twice a year.

The CHAIRMAN said that they all regretted the absence of Mr. McPherson, but congratulated him on the excellence of his paper and on his enterprise in carrying out this piece of experimental work, which he was sure all hoped would prove the solution of the great abortion problem. There were many questions on the subject of the test and inoculation which he would have liked to ask Mr. McPherson, but would have to defer them until the time when he was able to give the full results of his experiments.

Messrs. Anderson, Brown, Marshall, Baxter, and other members all confessed themselves ignorant of the subject of Mr. McPherson's paper, but congratulated him for bringing it forward, and contributed to a general discussion on contagious abortion as they had found it in their several practices.

Mr. BROWN, Banchory, promised to prepare a paper for next meeting, the subject being left to himself.

Office bearers for the ensuing year were elected as follows :—

President.—Mr. CLEMENT BAXTER, Elgin.

Vice-Presidents.—Messrs. WM. MCPHERSON, Huntly ; WM. MARSDEN, Banff.

Secretary and Treasurer.—Mr. G. HOWIE, Alford.

Committee of Management.—Messrs. Thomson, Marshall, Hepburn, Aberdeen ; Anderson, Keith ; Cumming, Culter ; Crabb, New Aberdour ; and Watson, Aberchirder.

A unanimous vote of thanks to the President brought a successful and educative meeting to a close.

GEORGE HOWIE, Hon. Sec.

DISEASES OF ANIMALS ACTS 1894 TO 1903, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Animals Attacked	Out-breaks	Out-breaks.	Slaughtered. *
GT. BRITAIN. Week ended Sep. 10	16	17	...	...	12	32		1	18	305
Corresponding week in 1909 ...	19	23			13	44		3	17	139
Corresponding week in 1908 ...	10	11			14	32		2	30	143
Corresponding week in 1907 ...	22	36			9	25	Essex 3	1	30	100
Total for 37 weeks, 1910	1047	1256	2	15	272	813	London 29	344	1037	9472
Corresponding period in 1909 ...	940	1255			395	1420		474	1290	11713
Corresponding period in 1908 ...	785	1049	3	112	597	1840		641	1522	8843
Corresponding period in 1907 ...	790	1054			649	1483		420	1892	8866

Board of Agriculture and Fisheries, Sep. 13, 1910.

Parasitic Mange (outbreaks)

IRELAND. Week ended Sept. 3	...	...	...	...	...	...	2	...	2	14
Corresponding Week in 1909 ...	...	...	...	...	...	...	3	1	1	...
Corresponding Week in 1908 ...	...	...	...	...	...	...	...	2	3	108
Corresponding Week in 1907 ...	1	1	...	...	1	1	...	1	6	184
Total for 36 weeks, 1910 ...	5	8	...	...	1	2	56	348	73	1712
Corresponding period in 1909 ...	5	5	...	...	...	...	67	306	83	1505
Corresponding period in 1908 ...	6	9	...	...	...	...	31	276	135	2971
Corresponding period in 1907 ...	2	4	...	...	5	9	63	191	115	1854

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sep. 7, 1910

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Importation of British Cattle into France.

The Board of Agriculture and Fisheries desire to give publicity to the fact that under new regulations which have been made by the French Government respecting the importation of horses, cattle, sheep, goats, and pigs from the United Kingdom into France, the certificate of the Board as to the freedom of the locality from contagious disease has been substituted for the certificate of the local authority. Intending exporters of live stock to France shoulfl therefore make application to the Board for forms of application for certificates and for instructions as to the information required before the certificate can be issued.

Cows and an Outbreak of Scarlet Fever.

In June, 1909, a very widespread outbreak of scarlet fever in London and Surrey was apparently spread by milk from the Semley district of Wiltshire. The medical officers of the London County Council and Surrey County Council who investigated the outbreak reported that in their opinion the disease was caused by an eruptive disease on the udders of the cows. Dr. J. Tubb-Thomas, C.M.O., in his report just issued, states that the evidence, in his opinion, does not support this view, and no bacteriological or veterinary evidence was forthcoming to support it. He investigated the outbreak, and was quite satisfied (and in this he is supported by the district medical officer of health, who made an independent investigation) that the cows had nothing to do with the disease, but that it was conveyed to the milk by the hands of milkers who had a case or cases of unrecognised scarlet fever in their homes. An undoubted case was found in a milker's house at the time of the visit of the London and Surrey medical officers on June 20, and this child was taken ill on June 15. Dr. Tubb-Thomas has no doubt there was an earlier unrecognised case. He has since had an opportunity of examining a number of cows in connection with an outbreak of diphtheria. The affection of the udder exactly resembles the Semley cases, but it was shown to have nothing to do with the diphtheria outbreak, and no cases in any way resembling scarlet fever were caused. These cows were bacteriologically examined by the Lister Institute, and no evidence of diphtheria or scarlet fever was found. —*The Medical Officer.*

Veterinary Dispensaries in Ireland.

September 1st witnessed the opening in Co. Mayo of the first of the Department's veterinary dispensaries in the Congested Districts, and other stattons are expected to be established during the ensuing month. The inaugural enterprise will embrace Ballyhaunis, Claremorris, Kiltimagh, Ballinlough and Urlaur. Mr. T. J. Flynn, M.R.C.V.S., of Ballyhaunis, will attend periodically at each of these places, and give veterinary advice to *bona-fide* farmers resident in congested districts, the valuation of whose holdings does not exceed £10.

The following fees will be charged to persons entitled to the benefits of the scheme :—Advice, inoculation or simple operation, at headquarters or dispensary, 1s. per case. Severe operations at headquarters or dispensary, 2s. 6d. per case for persons whose valuation is £5 or under; and 5s. per case for persons whose valuation exceeds £5, but does not exceed £10. Attendance at farmers' residences, 1s. per £1 valuation, provided the minimum fee is not less than 2s. 6d. Double fees may be charged after sunset, and medicines will be supplied at reasonable prices.

It is generally understood of course that this scheme has been drawn up and financed for the Congested Districts only, but it is also common knowledge that some of the counties in other parts of Ireland are keenly desirous of the local establishment of veterinary dispensaries. The Department received a deputation from the King's Co. Committee of Agriculture with reference to this matter on Monday last, when Mr. Russell explained that the money provided under the new Land Act would not be sufficient to put the scheme into operation through the entire Congested Districts, and consequently, much though he wished being able to accede to the King's Co. demand, it was impossible for the present. The Department would, however, be prepared to sanction an experimental scheme on a small scale in a selected portion of King's Co., the cost to be defrayed out of the Joint Fund. Mr. T. P. Gill added that if the farmers of the selected district could be got to subscribe 1s. per head on a co-operative basis it would help towards success.

Mr. T. W. Russell, Vice-President of the Department of Agriculture, has appointed the following veterinary surgeons to act in their respective localities under the scheme of veterinary dispensaries which the Department are putting into operation in the congested districts, viz. :—

Mr. B. Harvey Mellon, M.R.C.V.S., of Falcarragh, will hold dispensaries at Creeslough, Dunfanaghy, Gweedore, Dungloe, and Burtonport.

Mr. F. McShane, M.R.C.V.S., of Dunkineely, Co. Donegal, will hold dispensaries at Glencolumkille, Carrick, Killybegs, and Donegal.

Mr. W. A. Smith, M.R.C.V.S, of Drumshambo, Co. Leitrim, will hold dispensaries at Drumkeeran, Dowra, Ballinamore, Ballyfarnon, and Cashcarrigan.

Mr. D. Hamilton, M.R.C.V.S., of Ballina, will attend dispensaries at Ballina, Easky, Crossmolina, Ballycastle, and Killala.

Mr. J. J. O'Brien, M.R.C.V.S., of Bellmullet, Co. Mayo, will hold dispensaries at Blacksod, Gweesala, Bangor, Barnatra, Glenamoy, and Poulathomas.

Mr. B. McDonnell, M.R.C.V.S., of Westport, will hold dispensaries at Newport, Achill, Mallaranny, Louisburgh, Liscarney, and Killavalley.

Mr. J. Dodd, M.R.C.V.S., of Swinford, will hold dispensaries at Aclare, Charlestown, Foxford, and Kilkelly.

Mr. T. J. Flynn, M.R.C.V.S., of Ballyhaunis, will hold dispensaries at Claremorris, Kiltimagh, Ballinlough, and Urlaur.

Mr. J. B. McKittrick, M.R.C.V.S., of Clifden, will hold dispensaries at Leenane, Letterfrack, Roundstone, Recess, Carna, Maam Cross, and Costelloe.

Mr. J. A. Moffett, M.R.C.V.S., of Galway, will hold dispensaries at Spiddal and Oughterard.

Mr. W. Nyhan, M.R.C.V.S., of Cahirciveen, will hold dispensaries at Glenbeigh, Portmagee, Waterville, Cahirdaniel, and Sneem.—*Farmer's Gazette* (Dublin).

Our National Horse Supply.

Sir,—From recent letters appearing in the Press I am glad to see that, in spite of the somewhat hasty censure of the Hunters' Improvement Society and other critics, the adoption of some form of "retaining principle" in any scheme of national horse breeding is rapidly gaining ground. A Free Trade system of horse breeding may or may not be for the ultimate advantage of horse breeders. But there are the interests of the taxpayer and the Army to be considered. With a Free Trade system the money voted for horse breeding will continue, as now (with King's premiums), to be a free gift to foreign buyers, who are always prepared to give from 50 to 70 per cent. higher prices than our remount officers. The fact that foreigners place a much higher value on a good horse than we do must not be lost sight of, and I would urge that any system adopted, to be suc-

cessful, must fulfil the two following principles: First, that the Government get the first refusal of all registered young horses before the foreigner; second, that the prices paid for such youngsters be up to the level of foreign prices.

The Devon packhorse is the *beau idéal* of the type the foreigner is after, and the foreigners and colonials have during the last twenty years bought out all the pure-bred pack stallions. There is not one now left in Devon. The mares have gone the same road, and only fifty pure-bred pack mares now survive, and the half-bred pack young stock bred from these mares by various class sires are bought up and leave the country as soon as offered.

C. R. STAVELEY.

[It has been ascertained from the greatest horse-breeding districts in the kingdom that if any restrictions are placed upon the breeder he will to a great extent cease breeding. The institution of ear-marking, or of reserving horses until the Government buyer has had the first chance, would probably bring about an enormous diminution in numbers. If the Government would raise their prices so that they could compete with the foreign buyer on equal terms the breeder would be encouraged, but if his market is curtailed he will turn his attention to other stock. An enormous amount of evidence to this effect was brought from all parts of the country at the annual meeting of the Hunters' Improvement Society last March.—ED.]—*The Field.*

Gingering Show Horses.

Before the North Lonsdale Bench, at Ulverston, on Thursday, Sept. 8, Athol Atkinson, groom, was charged with cruelty to a mare, and William Howarth, of Low Sizergh, Kendal, was summoned for causing the mare to be ill-treated. Atkinson admitted the charge, but Howarth pleaded not guilty.

On behalf of the R.S.P.C.A., Mr. F. W. Poole, of Ulverton, said in consequence of a report from Penrith Show about Howarth, who went about from show to show exhibiting light horses, Atkinson, the groom, was specially watched at Ulverston Show on Aug. 16. Insp. Tucker saw Howarth take something from his waistcoat pocket, chew it and hand it to Atkinson, who "gingered" the mare. The animal became restless, and witness charged Atkinson with "gingering" the mare, and ordered him to take it out. Howarth came up and asked what was the matter, and then said—"Supposing it has been gingered. It is not the only one which has been done. They have all done it. You can come with me in the ring and examine them. You are trying to make an example of a poor man."

Howarth denied preparing anything for the mare.

James Latta, veterinary surgeon, Ulverston, stated ginger would cause the animal considerable pain, and it would be an act of cruelty.

Col. Baldwin (the Chairman): Do you know whether it is the usual practice to use ginger?—Yes, it is a common practice.

It is universally carried out?—Well, it has happened often.

Do you know whether proceedings have been taken against parties for doing it?—Proceedings have been taken previously of which the Society have a record.

Howarth said he could not see where the cruelty lay?

Mr. Latta said ginger was an irritant, as anyone knew who chewed it.

Howarth said it was done after long journeys.

The Chairman: Is it an act of cruelty?

Mr. Latta: It causes pain, and excessive pain is an act of cruelty.

Atkinson pleaded ignorance. He had worked for "vets" and did not know "gingering" was cruelty.

The Bench decided to convict. That was the first case in the division. Howarth was fined 20/- and costs, and Atkinson 5/- and costs.

Our New Zealand Meat Supply.

This was the title of a most interesting address given by Mr. H. C. Cameron, Produce Commissioner for the New Zealand Government in Great Britain, at the annual conference of Sanitary Inspectors held in London recently, from which we extract the following:

"The chief article of food supply received from New Zealand is, of course, frozen meat. The history of the frozen meat trade would prove a most interesting subject for a longer paper than that which I have time to read to-day. Consequently, although I feel tempted to say something of its commencement and development, I must refrain, and confine myself to facts which I think probably more specially concern you. Commencing with an export of 1,707,328lbs., of the estimated value of £19,339, in 1882, the trade has steadily grown. In 1892, 97,636,557lbs., value £1,033,377; in 1902 239,518,348lbs., value £2,718,763; and last year the enormous total of 270,077,248lbs., of a value of £3,392,763, was reached. The New Zealand farmer, while fully recognising that other countries may beat him in producing larger numbers of sheep, lambs, and cattle, clearly appreciates the fact that to be supreme in the English markets he must maintain the quality. He therefore strives by close attention to breeding and feeding, to ensure that the meat exported from New Zealand shall be the best placed on the market here. In this he is strongly backed both by the refrigerating companies, who handle the meat prior to shipment by the Government, who have passed legislation which, being strict, ensures that nothing but the best shall be exported. The "Slaughtering and Inspection Act" of New Zealand is probably one of the most drastic in the world. Under it the slaughtering and preparing of meat both for local consumption and export is placed in all its details under the closest public inspection.

INSPECTION BEGINS WITH LIVING ANIMALS.

Not only is this so, but the work of the inspection of the Department of Agriculture begins long prior to the slaughtering of stock. The flocks and herds throughout the country are regularly visited and inspected while on the farms. Any animals then found to be diseased are immediately condemned, and compensation equal to half their value is paid to the owners. By this payment the owners are encouraged to help in eradicating disease, which as a result is now rare. Meat killed for export must be slaughtered in the slaughter yards of the frozen meat companies, which are all licensed.

TRAINED VETERINARY INSPECTORS.

A Government inspector, who must be a qualified officer holding the certificate of the English Royal College of Veterinary Surgeons, is attached to each of these yards, to which he gives his whole attention. No stock can be killed without his authority. It is the duty of this officer to inspect all animals at the slaughter yards before killing, and then to again examine the carcases after slaughter. Only the absolutely pure and healthy carcases are permitted to be removed for consumption. Any condemned are at once destroyed. The inspectors have full right of access to the books and papers of the refrigerating companies, and these have by law to be kept in such a way as to give complete lists of all animals slaughtered. They also have full control over the sanitary and general conditions of all establishments where meat is prepared prior to shipment, and are responsible to the Government for the proper management of such. The lining of the walls of the slaughter-

ing and dressing rooms, the specifications for the partitions and posts of those places, the ventilation, and many other details, are regulated by law. Under the Act the inspectors may at any time enter any slaughtering place, sale yard, building, yard, or premises, or go upon any ship or conveyance which is intended to be used for the collecting or slaughtering of stock or meat, and they may do whatever they deem necessary for inspection.

The Value of the Certificate.

No meat can be shipped from New Zealand unless a certificate is issued by the Inspector that he is satisfied that at the time of the shipment the meat is in good condition and free from disease, and a tag bearing his signature is attached to each carcase certifying to this effect. The meat must also be properly and thoroughly frozen, and the ship in which it is to be carried must be in all respects in a fit condition to receive the meat, and must also be efficiently equipped with all appliances necessary for its safe carriage during the voyage.

By such means New Zealand has for years done its utmost to ensure the perfect purity of its meat products. It would take too long to go fully into details of the stringent regulations that have been passed. You will, however, I am sure, be pleased to learn that the powers given to the inspectors are so great and the provisions for safeguarding the meat shipped from New Zealand so complete as I have outlined. Frozen meat is railed from the freezing works to the ship's side in insulated vans. The cold air chambers on board ship in which the meat is to be stowed are thoroughly cooled prior to the meat being placed in them. The temperatures maintained during the voyage usually range from 10 to 15 degrees, and I am pleased to say there is seldom any damage to New Zealand meat during the voyage. The large steamers now employed in the frozen meat trade, many of them have a capacity of over 100,000 carcases, are fitted with machinery of the latest type, and the engineers in charge being men of mature experience, unless some unusual accident occurs there is little risk of damage in transit. I have now told you something concerning what is done in New Zealand to ensure the quality and condition of our food supplies. I have also indicated the manner of their collection and the stringency of the inspection there. Regarding these I feel certain you will agree with me that great care is taken, and that on arrival here little fault can be found either with the quality or condition of what is offered for consumption by the people in this country.

Distribution in Great Britain.

With the distribution of New Zealand food in this country, however, the New Zealand Government has little or nothing to do. All lines when placed on the market here are in the hands of private individuals, and come under the control of the English laws. It is, perhaps, hardly my place to criticise the methods of distribution here, although in my opinion they are capable of considerable improvement. I must admit, however, that I occasionally feel a little sore, to say the least of it, when I see meat that, as I have indicated, has been specially cared for and landed here in good order and condition, being exposed, possibly, to the heat of the summer sun, or being carted through the streets in a van without proper cover; or, worse still, offered for sale hanging in front of retail butchers' shops, or cut up in joints and in small pieces, exposed to all the blasts from heaven, carrying with them the accumulated filth of the streets, which settles upon the soft damp surfaces in thick layers. *These unfortunate conditions apply not only to imported meat, but to English meat as well.*

Had I my way with the retail handling of meat, I should make it compulsory that none should be sold unless kept under the most cleanly conditions in shops protected by glass from the contamination of the streets and with good ventilation. In these days, when we hear so much of microbes, I am often surprised at the little attention evidently paid in many retail shops to the protection of meat from contamination.

Frauds of Retailers.

One fault with the distribution that is often found by those interested in our New Zealand food supplies, and who know the excellence of their quality, is that while they are sold in the wholesale trade as New Zealand, when they are retailed in the majority of instances their distinction as New Zealand is lost. The question frequently asked me is, "Where can New Zealand butter, or cheese, or honey, or some other line of New Zealand food supplies, be obtained retail?" and, unfortunately, I am unable to say where with any degree of certainty.

Of course, the term "Canterbury," with which the finest brands of New Zealand mutton and lamb are associated, is well known and generally used, but, as I have on several occasions proved in the law courts of this country, the fact that the term is applied to mutton and land in many retail shops throughout the country is no guarantee that when asked for New Zealand meat will be obtained. It is a grievance with many of us who are connected with New Zealand that the finest of our mutton and lamb is sold as English meat, and that carcases of inferior quality from other parts of the world are substituted and sold as the New Zealand article. In this way, while consumers in this country are defrauded, the New Zealand producers suffer. They do not obtain the advertisement they should from the sale of their finest quality, and the reputation of their meat is depreciated by this fraudulent substitution.

Charge of Cruelty to a Donkey at Kirkcudbright.

Sheriff Napier was engaged all day on Thursday, September 8th, in Kirkcudbright Sheriff Court hearing evidence in a charge of cruelty to a donkey, brought against John Henry Ferguson, Crochmore House, and Robert Boan, labourer, Crochmore Cottages, both in Irongray parish, who were accused of having on June 29th, 1910, on the public road leading from Crochmore House to Maxwelltown, and in Terregles Street and Galloway Street, Maxwelltown, cruelly ill-treated a donkey belonging to the said John Henry Ferguson, by causing it to draw a cart while suffering from a suppurating sore on its back under the saddle and three suppurating sores on the hocks and rump; (2) the said John H. Ferguson was charged with having on 30th June, at Crochmore House, ill-treated the said donkey by causing it to have on a riding saddle and allowing his daughter Violet to ride on it while it was suffering from the sores already mentioned. Mr. Ferguson had been previously convicted of a contravention of the Cruelty to Animals (Scotland) Act, 1850, on 4th December, 1901, at a Sheriff Summary Court at Dumfries.

Thomas Dodds, officer of S.P.C.A., Noblehill, Dumfries, said he received a complaint as to alleged cruelty, and went to Crochmore on Thursday, 30th June, accompanied by Sergeant Currie, Maxwelltown. He examined the donkey, and found it to be in thin, poor condition, and a suppurating sore under the saddle one inch in diameter, and on the rump or hocks of donkey three suppurating sores. He examined the saddle, and there was no chambering in it, and there was fresh matter adhering to the saddle. There was also hard matter adhering to the saddle, showing the sore was one that had been there for some time. Accused's daughter was brought, and said she had been riding on the donkey that day. The wound under the saddle was very painful, because when he touched it with his hand the animal shrank almost to the ground. He charged

accused with an offence under the Act. He was told that Boan had driven the donkey into Maxwelltown, and when Boan was asked if he knew of the sores he admitted he did, but said it was by his employer's orders that he had done so. Witness considered it was a clear case of cruelty. He got Mr. M'Nae, V.S., Maxwelltown, to examine the animal.

Cross-examined by Mr. W. Nicholson, he said his reason for going to Crochmore was that he had got a complaint. Pressed to divulge the name, witness declined, but said he would hand it to the Sheriff, and this was done. Mr. Nicholson was shown the name on undertaking not to divulge it in open court. Ferguson's explanation was that the donkey had been clipped and the hot weather had caused blistering to a certain extent, and that what witness saw was not matter, but a mixture of sugar of lead and sulphate of zinc, which had been applied to the blister. Witness was prepared to say that what he saw on the saddle was matter from a suppurating wound. He had examined hundreds of cases. He had had seven years' experience as an inspector, and previous to that his life had been spent among animals. What he saw could not have been bare skin covered with ointment and vaseline. He saw no scurf on the donkey's skin, but he did see several suppurating sores. Ferguson asked him to repeat before his servants what he (witness) had said to Ferguson. He refused to do so.

Police-Sergeant William Currie, Maxwelltown, stated that on Wednesday, 29th June, he was on duty in Galloway Street, and saw a donkey being driven towards Dumfries. Boan was leading the donkey, and afterwards it was driven back with two calves in a cart to which it was yoked. Witness then corroborated the previous witness as to what took place when they went to Crochmore and as to the condition of the donkey. The donkey seemed to have been poorly fed and unfit to go, apart from the sores. He considered the animal was not in a condition to have a saddle on at all. When the donkey was at Maxwelltown on the Wednesday it had ordinary pony harness on, and he considered the saddle part would be pressing on the sore. Ferguson said he had dressed the sore with sugar of lead and had put it on too strong. What he saw on the saddle was matter.

Cross-examined: Shown a photograph of a donkey, witness declined to say whether it was the one he saw at Crochmore. The donkey seemed to him to have been hungered during the winter. Witness had heard, both from servants who had been dismissed from Crochmore and from others still there, that both persons and animals were hungered at Crochmore. When he saw the donkey in Maxwelltown a man said to him that it would be more like the thing if the man were put in the trams to draw the load. The donkey was touched on various parts of the back, and it was only when touched near the wound that the animal shrank down. He did not examine the animal when he saw it in Maxwelltown. There was a considerable amount of scurf on the animal's skin, but it was not at the sore at all. The matter he saw was smelling badly.

Janet M'Naught, formerly cook at Crochmore from 15th February till 22nd August, said she remembered the two previous witnesses going to Crochmore. She had noticed that day a mattering sore under the saddle. She saw Miss Violet Ferguson riding on the donkey on that day. She considered the donkey unfit to be ridden or driven; it was very thin. She went to Maxwelltown once a week for some time for coals. It was able to draw the load along the level, but she had to push it up the hills.

Cross-examined: She left on a month's notice, which she got for asking for more wages and more food for the animals. The donkey had no sore on the back when she was carting coals, but she drew Mrs. Ferguson's attention to a piece of wire sticking through an old saddle She took the donkey for the coals, because the other animals were suffering from sore shoulders and could not go. She brought five cwts. of coals at a time. She just got money to pay for that quantity, which was all she was allowed per week. She saw the sore on the donkey's back a few days before the inspector went to Crochmore.

James Lindsay, V.S., Castle Street, Dumfries, stated that on Friday, 1st July last, Mr. Ferguson asked him to go and examine an animal. He went about five o'clock, and saw a donkey and examined it, and as a result gave him a certificate to the effect that the animal was going sound but in poor condition, suffering from sores on the back, and totally unfit for work at that time. The donkey was suffering from running sores right along its back from behind the withers to the tail. There was an oily dressing on the sore when he saw it. It was cruelty to work it in that condition. Its back was in such a condition that no pressure should have been put on its back at all. When he touched the animal near the wounds the animal cringed, and the accused said the donkey had been trained to crouch to allow his daughter to mount it. Witness then touched the animal at different points not near the sores without any signs of cringing. When he saw the donkey there had been no astringent dressing put on the wounds.

Cross-examined: He had an account of £10 or £12 against Ferguson. Ferguson asked witness what it would cost to go out to Crochmore and examine the animal, and witness asked when it was to be paid. There was no quarrel between witness and Ferguson, and he was not pressing him for the account. He did not see any sores on the buttocks. His opinion was that the sores had been commenced probably by one on the withers caused by the saddle, and that these had spread along the back owing to the animal's low condition. The sores he saw must have been there from a fortnight to three weeks. He did not inform Mr. M'Nae about the condition of the donkey, and he (witness) was not interested in the prosecution. He did not send the certificate to Ferguson. Ferguson had to call for it and pay for it before he got it.

Robert M'Nae, V.S., Maxwelltown, on Sunday, July 3rd, visited Crochmore to see a donkey, which he examined and found to be suffering acute pain from sores along its back, which on pressure caused the donkey to cringe. The sores had been dressed with an astringent preparation.

Cross-examined: He saw Mr. Lindsay on the Sunday night, and the donkey was spoken about. Witness had heard that Mr. Lindsay had been at Crochmore and examined the animal. He went to Crochmore at the instance of the S.S.P.C.A. He bore no ill-will to Mr. Ferguson, although he had had words with him. Mr. Ferguson took him to where the donkey was, and on examination he found it was suffering from several sores along the back. He saw no traces of sulphur and oil having been applied. He told Ferguson not to work the donkey at all while in that condition.

Defence.

Thomas Campbell, V.S., Castle Douglas, said the fact of a donkey yielding downwards under slight pressure was nothing unusual, and did not necessarily indicate pain. He went to Crochmore on 12th August at Ferguson's request and examined the donkey, which he found in a good condition, very lively, and no marks of sores on its back. If the donkey had been suffering on 29th June from severe suppurating sores there would have been marks of these still visible on the date of his visit, and there were none. Between 1st July and 12th August it would have been impossible to bring the

donkey to the good coudition shown in the photograph produced from a thin and poor condition.

Cross-examined: It would take six months to do it with good feeding. He would not expect to find traces of wound on the 12th August which had been there on the 29th June. He did not expect to find the sores there when he went to examine the animal. Good feeding for six weeks would have a great effect in bringing a donkey into good condition.

John M'Creath, gardener at Crochmore since 11th April last, stated that he used the donkey every week to cut the lawn. No part of the harness he used touched the donkey's back. It was a very fine bred donkey, and the finer a donkey was bred the thinner it was. When the sores appeared he put on the mixture already mentioned, which he thought was rather strong. He also noticed a kind of "scruif" on the animal's skin. He applied dry sulphur, and Mr. Ferguson also put on vaseline. He was present when the inspector was asked by Mr. Ferguson to repeat in witness's presence what he said to Mr. Ferguson, and refused. Witness examined the donkey on the day the inspector called, and saw no suppurating sore at all, but only a patch of bare skin, which, he thought, even a riding saddle would not have touched. He helped to yoke the donkey on the day it went to Maxwelltown. There was no part of the harness could touch the donkey's back, except a band about four or five inches wide. Mr. Lindsay said the donkey was suffering from ringworm, but that it was running sound and all right. Mr. M'Nae on the Sunday told witness the donkey was not so bad as had been represented; that it was suffering no pain, but that it had better not be worked for a day or two, and that it was not suffering from ringworm.

Cross-examined: After he put the ointment on the sore caused by the flies it healed up. He put the dry sulphur on the donkey just to keep the flies from doing any more harm to the small sore about the size of a shilling.

By the Sheriff: He thought the donkey was very well fed, so far as he could see. The donkey was in very fair condition on the day the inspector called, and was so still.

Robert Boan, one of the accused, said he had been at Crochmore since 20th June. He was general estate man. He took the Donkey to Dumfries on 29th June to bring two calves. He saw no wounds on the donkey, and if he had he would not have taken it. He did not admit to the cruelty man that he knew about the sores.

Cross-examined: The donkey was in good, fair condition on the day he was at Maxwelltown. He saw no wound on the donkey then. He saw a sore on the animal's back a week after it had been at Dumfries.

Re-examined: There was no broken skin, but only a redness at a part near the rump.

Robert Hamilton, farmer, Crochmore, saw the donkey nearly every day. He never saw any sign of ill-treatment. It was more of a pet about the house than anything else. If it had been covered with sores along the back he would have seen them.

Cross-examined: He examined the donkey about a fortnight after and saw no sores then.

James Cormie, formerly coachman at Crochmore, said he left there in April. He had been responsible for the feeding of the donkey during the winter, and it was well attended to in that respect. He knew Sergeant Currie, Maxwelltown, and Constable Simpson, Shawhead. He did not tell these men that the donkey was kept tied up at Crochmore and not fed. He remembered one day meeting Sergt. Currie in Terregles, but he did not make a complaint to him of cruelty to animals at Crochmore.

Mr. Ferguson, Crochmore, said he saw Sergt. Currie aud Inspector Dodds prowling about the grounds. He showed them the donkey. The inspector said the donkey was not so bad as reported. He then looked at it and said the donkey was in poor condition, had suppurating wounds and had been ill-treated. He asked the inspector to repeat before witnesses his statement about the donkey. He sent for the witnesses, and the inspector said he would not repeat his statement if there were a hundred witnesses. Dodds was very impudent, and witness said he would report both the inspector and the sergeant, the one to the S.S.P.C.A. and the other to the Chief Constable, and he did report them. He requested the S.S.P.C.A. to send a veterinary surgeon to examine the animal. In order to satisfy himself he also sent for Mr. Lindsay, who examined the donkey and afterwards gave the certificate referred to, although on the occasion of his visit he said it was ringworm that the animal was suffering from. Mr. M'Nae called on the Sunday, and after examination said the animal was suffering no pain and there were no wounds about it. He also said he did not think the Society had any case against him, but it was only his opinion. M'Nae also said the donkey was in fair condition. He got Mr. John Baird, V.S., 35 Castle Street, Dumfries, to examine the animal. and his certificate was to the effect that the donkey was in good condition, in perfect health, and thoroughly sound in limbs. The skin from the withers along the back was slightly irrigated, but no broken skin. Continuing his evidence, he said he thought the animal was suffering, no pain, and that there was no cruelty. He examined the donkey most thoroughly, and there was no cruelty. He examined the donkey most thoroughly, and there was no wound whatever and no broken skin in the slightest. He had made every endeavour to clear himself from the charge, and had got three veterinary surgeons, who were strangers to him, to examine the animal. There was no truth in the assertion that there was a suppurating sore under the saddle. It was an absolute lie.

Cross-examined: He considered the inspector was lying when he said he saw suppurating sores, and the sergeant was not speaking the truth. When the saddle was removed there was a small mark where the hair was off. It was sticky with vaseline, but there was no broken skin and no suppurating wound.

Andrew Johnstone M'Intosh, M.R.C.V.S., County Council veterinary surgeon for Dumfries, said Ferguson asked him on 16th July to go and see the donkey. His certificate was to the effect that he found the skin along the spine had been slightly irritated from some applied irritant. Some hair was off, but no skin was broken. When pressed along the spine the animal went down, but some other animals would do the same under the same treatment. He caused the animal to be saddled and mounted, and it gave no sign of pain. He was satisfied that the donkey was fit to work and in good keeping condition.

John Baird, V.S., Dumfries, corroborated the previous witness, and said he examined the donkey carefully for traces of previous sores and found none.

This closed the evidence, and after the Procurator-Fiscal had addressed the court, the Sheriff, in giving judgment, said one thing he wanted to say was that he was now sorry he did not make the witness Dodds state in court the name of his informant, as people who wanted to bring charges should be made to come forward and state them. On the merits of the case he could not possibly convict. He could not go against the evidence of the three veterinary surgeons, Campbell, M'Intosh, and Baird. He, therefore, found both accused not guilty.—*Dumfries and Galloway Standard.*

Diseased Meat—Heavy Fines.

At Buckhaven Police Court, on 30th ult.—Provost Greig and Bailies Simpson, Rose and Birnie on the Bench—Andrew Christie, butcher, Denbeath, Methil, pleaded guilty to a charge of having exposed for sale in his shop at Denbeath 13 pieces of butcher meat which were unsound and unfit for human food. Certificates were submitted from which it appeared that the bullock had suffered from tubercular pleurisy. In extenuation it was stated on behalf of accused that he had not seen the carcase of the bullock until it had arrived at his premises.

Provost Greig said it was annoying that time and again such horrible meat should be brought into the burgh. It was the duty of the magistrates to put down if possible this infernal trade, and the sentence would be a fine of £70 or three months in gaol.

SEQUEL.

On Friday, 2nd inst, John Mowat, grazier, Windygates, was charged with having consigned nine pieces of the meat to Andrew Christie, butcher, Denbeath. He pleaded not guilty. Evidence was led to show that Mowat had consulted a veterinary surgeon, who examined the bullock and advised him to kill it, as it would not thrive, thinking it had swallowed some foreign substance. Six shillings per stone was paid for it.

Mr. Riddoch, M.R.C.V.S., Edinburgh, stated that anyone dressing the carcase would see there was somethiug wrong with the animal. The skirt had been cut clean away when he saw the parts.

For the defence it was claimed that none of those present when it was dressed saw anything wrong except a small tumour near the heart. Mr. Greig, solicitor, made a strong point of the argument that Christie bought the carcase and not nine pieces of meat. The carcase was merely cut up by his man to suit the trade. This argument bore on the amount of the fine, which could not exceed £50 for each piece, but after all there was really only one piece—the whole carcase. He also held that his client had taken reasonable care to see that the animal was sound.

The magistrates found the charge proven, and passed sentence of £100, or three months.—*Meat Trades Journal*

Scarlet Red for Epithelial Growth.

Fisher first observed some few years back that solutions of scarlet red subcutaneously injected into a rabbit's ear induced an active proliferation of the overlying epithelium. As a result of this observation scarlet red has been employed to assist in the skin formation over clean granulating surfaces, and has been found of great value for this purpose, hastening the healing of large cutaneous defects and not infrequently supplanting skin grafting. Dr. Strauss publishes an article on the subject in the *Deutsche Medizinische Wochenschrift*. He employs an 8 per cent. ointment. Scarlet red is dissolved in chloroform oil, the solution being stirred until the chloroform has evaporated. Vaseline is then added to make the 8 per cent. ointment. This is spread upon gauze and is applied to the cleansed area. It should be changed every day or at least every other day. The addition of any antiseptic is unnecessary. This treatment is indicated in any large granulating area and is of special value for the epidermisation of defects following burns and for granulating wounds. In such cases, according to this author, subsequent contracting scars are in a large measure avoided. It has also acted very well in cases of ulcers of the leg, especially of the varicose variety, and in weeping eczema.

Association of Veterinary Officers of Health.

The annual meeting is to be held in the Municipal Buildings, Glasgow, on Thursday, Sept. 29.

TIME TABLE.

10 a.m. Meeting of Committee.
10.30 Meeting of members.
11. Address by President.
11.15. "Eradication of Animal Tuberculosis," by Profs. Bang and Ostertag. Discussion to be opened by Mr. J. Malcolm, F.R.C.V.S., Birmingham.
12.30 p.m. "Cancer in Domesticated Animals," by Dr. Murray, Imperial Cancer Research Fund, London.
1.30 Lunch.
2.30 "The Significance of Moulds or Fungoid Growths on Flesh Meat with Relation to Fitness Human Food," by Prof. Glaister, Professor of Public Health, Glasgow University.
3.30. "The Relationship between Scarlet Fever, Diphtheria, and Sore Throat of Man, and Disease of the Udder and Teats of Cows," by Prof. Gofton, Royal (Dick) Veterinary College, Edinburgh.

A. M. TROTTER, Secretary and Treasurer.

Personal.

BLAKEWAY—WEBB.—At the Cathedral Church, Birmingham, on Wednesday, 14th inst., James Blakeway, the eldest son of James Blakeway, Esq., M.R.C.V.S., of The Homestead, Malvern Wells, to Winifred, youngest daughter of Edward Webb, Esq., J.P., of Studley Court, Stourbridge.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Sept. 13

ARMY VETERINARY CORPS.

R. F. Wall to be Lieut. Dated July 22.

TERRITORIAL FORCE. UNATTACHED LIST.

The appointment to a Vet.-Captaincy of W. Awde, F.R.C.V.S., which was announced in the *London Gazette* of May 24, is antedated to April 1, 1908.

OBITUARY.

A. T. HUTTON, M.R.C.V.S., Barnstaple, N. Devon.
Graduated, Lond: March, 1887.

Mr. Alfred Thorne Hutton died at Barnstaple on Thursday last, 8th inst., at the age of 45 years. Deceased had been ill for some months. A day or two ago his illness took a turn for the worse, and he passed peacefully away in the early hours of the morning. He was the son of the late Mr. Thomas Hutton, of Fremington. He leaves a widow and two daughters, for whom much sympathy is felt.

The funeral took place at Fremington churchyard, on Monday, 12th inst., Rev. H. Pigot (West Down) officiating. The coffin was borne to the grave by Messrs. G. Ingerson, F. Holland, Braithwaite, Court, T. Pooh, and G. Lovering. The widow and two daughters attended, and among others present were Messrs. P. Penhale, M.R.C.V.S., F. Elliott, E. Withycombe, Berry, Johns. Mr. F. Adams represented Barnstaple Conservative Association. There were numerous wreaths.

Late Mr. Turnbull, G.V.S.

The announcement of the death of Mr. Hugh X. Turnbull, Government Veterinary Surgeon at Barberton, was received at the headquarters of the Agricultural Department, Pretoria, yesterday (Aug. 17), and created a profound feeling of regret. The deceased gentleman, who was a valued officer of the department, was only 30 years of age.

Mr. Turnbull graduated in July, 1902, and immediately afterwards came out to South Africa, and obtained an appointment in the Agricultural Department of the Transvaal, being sent to Barberton as Government Veterinary Surgeon for that district. Mr. Turnbull, from the very first, was a most efficient and conscientious officer, and all along kept himself up-to-date in all scientific matters bearing on his profession. During his career in Barberton he was chiefly occupied in dealing with East Coast fever among the cattle along the Swaziland border, which at one time threatened to over-run the whole district, and the department to-day can congratulate itself on having an official of Mr. Turnbull's scientific knowledge and energy on the spot to stamp out the disease in that section of the country. It was only on Tuesday that the officials at the Agricultural Department, Pretoria, heard that Mr. Turnbull had undergone an operation, and that peritonitis had supervened. Yesterday morning, the sad news arrived that he had succumbed to the attack. The deceased official leaves a young widow to mourn his loss, which is keenly felt also by his colleagues of the department.—*The Transvaal Leader.*

CORRESPONDENCE.

TUBERCLE-FREE HERDS.

Sir,

I feel grateful to Mr. Brittlebank for taking up the questions raised in your issue of Aug. 20th, and I observe that Mr. Brittlebank would not consider it safe to pasture infected and tuberculosis-free animals together in the open fields. I am quite of Mr. Brittlebanks' opinion, but I am also conscious that the thing is being done every day in nearly every milk supplying dairy of cows. How, then, can we escape having a very large proportion of our milk-producing animals tainted with tubercle from their earliest days, and only requiring time to complete the unsafe article as a milk-producing machine? If it is admitted that bovine tuberculosis can be communicated to the human family through the milk, surely something should be done to get the milk supply as safe as possible, and I think that can only be successfully carried out by starting at the beginning and feeding the young calves intended for milch cows on the milk of tuberculosis-free animals only. Having them housed in sheds entirely clear of the cowhouses, and having them pastured at first on young grass after a rotation crop where the older animals have not been. After, the young animals could be either boarded on a hill farm where only sheep and young animals are kept, or a field taken where the chances of tuberculous animals having been are small. Young stock so treated would have a chance of coming in as sound young cows to take the place of those going out. Above all, no bull should be used that is not from a tuberculosis-free stock and passes the tuberculin test.

This can be done by the farmers themselves, and I am satisfied it will pay for the trouble. It will also be necessary to have all the stock cows tested now and again, and to feed off all reactors. I know that this can be done with good results, but, as Mr. Brittlebank says, it requires a special standard of determination and persistence to carry the work through, and can be best done by the owners of stock, each making a strenuous effort to have his cows tuberculosis-free.

When milk it supplied, I am perfectly aware that dealing with old pasture where tuberculous animals have been kept will be a trouble. But time will help that, and the regular cleansing and disinfecting of byres is easily within reach.

Simply dealing with tuberculous udders will not result in healthy milk-producing herds—and there are more of the other kind than most people imagine.

I have, during the last six weeks, had an opportunity of seeing the benefit of even a little care taken in bringing up young stock for cows. A gentleman who is starting a dairy of Ayrshire cows on his estate, and has caused them to be purchased out of some of the best dairies in Dumfriesshire, Ayrshire, and the stewartry of Kirkcudbright, subject to their passing the tuberculin test, asked me to undertake the testing of them. On farm A—where ten animals were purchased, and where, until last year, old and young stock pastured together, and no care was exercised as to what milk the calves were getting—out of the ten animals only three passed the test and were accepted by the purchaser. On farm B. four were bought; here, too, no effort had been made either to see that the calves reared got their milk from tuberculosis-free cows, nor any care taken as to separation in house or field; only one animal passed out of the four. On another farm, C., four animals were purchased; some care had been taken with the calves, both with the milk, and in separation. The farm being for both sheep and dairy stock, the young animals were sent to the hill part of the farm, away from the other stock, and every one of the four animals passed the test. On farm D. in a different County, where care has been exercised for a considerable time in rearing the young stock, four animals were purchased and all passed the test. On farm E. in the same district as the last, no special care had been taken in the rearing or separation; eight were purchased, and only four of the eight passed. On farm F. (a farm dairy in Aryshire) where five animals were purchased, and where for the last five years efforts have been going on—by testing the cows, rearing the heifer calves on milk from healthy cows, keeping them away from the byres while calves, and then sending them out to a hill farm, and bringing home to the dairy when they are ready to take the place of the cast cows—in that case every one of the five animals passed. And I know that there is a large demand for young bulls reared from the above stock.

That the question is an important one is my sole reason for troubling you with this long letter, and I think if more of us would give our experiences on this subject we might do some good, and not leave everything to the Medical Officer of Health.

A. J. McIntosh.

Dumfries, 13th Sept.

VETERINARY SURGEONS AND PETROL TAX.

Dear Sir,

As I have purchased a motor car I would like to know if you can possibly inform me whether veterinary surgeons have been put on the same footing as medical men, as regards licence, and the use of petrol.—Thanking you in anticipation.—Yours faithfully,

James Geo. Bell.

Carlisle, Sept. 10.

Communications and Papers received:—Messrs. C. W. Townsend, H. Taylor, A. J. McIntosh, Prof. Mettam, Prof. O'Connor. "Cyclop."

North Mail, The Evening Journal (Carlisle), *Dumfries and Galloway Standard.*

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.

Communications for the Editors to be addressed 20 Fulham Road, London, S.W.